

REMARKS

Claims 39-61 were pending prior to this Reply. Claim 52 has been herein amended. Applicants respectfully submit that no new matter has been entered. Accordingly, Claims 39-61 are at issue.

The present invention is drawn to a module control system for a communication system. The control system is modular and reflexive, and includes input and output modules that communicate directly, without requiring a controller for routing communication between the input and output modules or for enabling reflexive functions. Referring to exemplary Claim 39, the system comprises an input module, which responds to the occurrence of a condition by transmitting a representative signal. The system also includes an output module, which is operably coupled to the input module. The output module comprises firmware, which is configurable having two reflex functions. The first reflex function occurs at a first time, and the second reflex function occurs at a second time. The first reflex function is structured to produce a state signal in response to receiving the representative signal from the input module, and without requiring an enablement signal from a controller.

As will be demonstrated herein, the prior art cited in the March 6, 2006 Office Action does not disclose, anticipate or suggest the elements of the claims of the present application.

Remarks Concerning Rejections Under 35 U.S.C. § 103

On page 2 of the March 6, 2006 Office Action, the Examiner rejected Claims 52-54, 56, 57, 59 and 60 under § 103(a) as being unpatentable over U.S. Patent No. 6,073,053 to Dummermuth ("Dummermuth") in view of U.S. Patent No. 6,909,923 to Vasko et al. ("Vasko"). In view of the amendments made herein, Applicants respectfully traverse that rejection.

Dummermuth is directed to a reflexive I/O card for use in an industrial process. The card provides outputs at a fixed delay in time or portion of a machine cycle. As the Examiner observed on page 3 of the March 6, 2006 Office Action, Dummermuth does not disclose that the output module does not require an enablement signal from a controller.

Vasko, by comparison, is directed to a safety level error detection circuit, for communication on the backplane of a controller, without requiring duplicative message transmission. However, Applicants submit that the combination of Dummermuth and Vasko

does not render the claims of the present application unpatentable, because the combination of Dummermuth and Vasko is improper. For three reasons, the combination of Dummermuth and Vasko does not satisfy the requirements of § 103.

First, Dummermuth *requires* an enablement signal as part of its operation. Dummermuth teaches that an enablement signal is *necessary*, because it indicates the occurrence of a condition (col. 3, ll. 18-26). Dummermuth describes that the central processor (i.e., controller) executes a control program to read certain values of an I/O image table (col. 3, ll. 49-64). If the values indicate a certain condition (e.g., a bottle reaches a particular position on a conveyor belt, col. 3, ll. 28-32), then the controller transmits an enablement signal to the output module (col. 4, ll. 25-38). Part of the Dummermuth system is therefore the determination of whether a particular condition or event has occurred, wherein that determination is made *by the controller*. Dummermuth thus requires a controller and an enablement signal for its operation. Without a controller and an enablement signal, Dummermuth is inoperable. Yet Vasko discloses that in one embodiment of that system, the input and output modules communicate without an intermediary controller (col. 8, ll. 6-12).

If the features of Dummermuth and Vasko were combined in the manner suggested by the Examiner, that system would be inoperable. Because while the input and output modules of Dummermuth would communicate without an intermediary controller, there would be no element of the system to determine the occurrence of a condition or event. Dummermuth *requires* that such a determination be made. Therefore, the combination of Dummermuth and Vasko is improper, because it would render Dummermuth inoperable for its intended purpose.

Second, neither Dummermuth nor Vasko discloses an output module having *two* reflex functions. The claims of the present application require an output module that has a first reflex function and a second reflex function, wherein one of the reflex functions produces a state signal in response to a representative signal from the input module. The output module of Dummermuth, and the output module of Vasko, have only one reflex function. Claim 52 of the present application, as amended, requires two reflex functions. Neither Dummermuth nor Vasko discloses that feature. Applicants therefore respectfully submit that Claim 52 is patentable over the combination of Dummermuth and Vasko. Claims 53, 54, 56, 57, 59 and 60 are all dependent on Claim 52, and therefore include the feature of an output module with two reflex functions.

Applicants thus submit that those dependent claims are patentable over Dummermuth and Vasko for the same reasons.

Third, Applicants respectfully submit that the combination of Dummermuth and Vasko is improper because there is no motivation or incentive in the prior art to combine those references in the manner suggested by the Examiner. *In re Napier*, 55 F.3d 610, 613 (Fed. Cir. 1995). The Federal Circuit has made clear that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where a teaching, suggestion or motivation to do so is found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347 (Fed. Cir. 1992). In the case of the present invention, neither Dummermuth nor Vasko includes any motivation to combine those references in the manner suggested by the Examiner. The combination is therefore improper. For those three reasons, Applicants respectfully request that the § 103 rejection be withdrawn.

Dummermuth and Vasko in view of U.S. Patent No. 5,988,847 to McLaughlin et al.
("McLaughlin")

On page 4 of the March 6, 2006 Office Action, the Examiner rejected Claims 39-42, 44, 46, 47, 49, 50 and 55 under § 103(a) as being anticipated by Dummermuth in view of McLaughlin and Vasko. Applicants respectfully traverse that rejection.

As explained *supra*, the combination of Dummermuth and Vasko is improper, because the combination of those two systems would render Dummermuth inoperable for its intended purpose. Dummermuth requires an analysis to be performed by a controller, which issues an enablement system. Vasko, on the other hand, which in the cited embodiment explicitly excludes a controller, can therefore not be combined with Dummermuth to result in an operable system. McLaughlin fails to cure that deficiency. McLaughlin does not disclose any way for the output module to execute a reflex function without an enablement signal from a controller. Therefore, the combination of Dummermuth, Vasko and McLaughlin is inoperable for the same reason as the combination of Dummermuth and Vasko alone.

As further explained *supra*, neither Dummermuth nor Vasko discloses an output module having *two* reflex functions. McLaughlin fails to cure that deficiency as well. McLaughlin does

not disclose an output module having two reflex functions, as all of the claims of the present application require. For both of those reasons, Applicants respectfully submit that the combination of Dummermuth, Vasko and McLaughlin is both improper under § 103 and fails to anticipate the features of the present invention. Applicants therefore request that the § 103 rejection based on those references be withdrawn.

Dummermuth, McLaughlin and Vasko in view of U.S. Patent No. 5,938,754 to Edwards ("Edwards")

On page 8 of the March 6, 2006 Office Action, the Examiner rejected Claims 43, 45, 48 and 51 under § 103(a) as being anticipated by Dummermuth, McLaughlin and Vasko in further view of Edwards. Applicants respectfully traverse that rejection.

As explained *supra*, the combination of Dummermuth, Vasko and McLaughlin is improper, because the combination of those two systems would render Dummermuth inoperable for its intended purpose. Dummermuth requires an analysis to be performed by a controller, which issues an enablement system. Vasko, on the other hand, which in the cited embodiment explicitly excludes a controller, can therefore not be combined with Dummermuth to result in an operable system. Combining McLaughlin with Dummermuth and Vasko did not satisfy that impropriety, however, because McLaughlin likewise failed to disclose any way for the output module to execute a reflex function without an enablement signal from a controller.

Edwards also fails to cure that deficiency. Edwards, like McLaughlin, does not disclose any way for the output module to execute a reflex function without an enablement signal from a controller. Therefore, the combination of Dummermuth, Vasko, McLaughlin and Edwards is improper, because it would render Dummermuth inoperable for its intended purpose.

As further explained *supra*, neither Dummermuth, Vasko or McLaughlin discloses an output module having *two* reflex functions. Edwards fails to cure that deficiency as well. Edwards does not disclose an output module having two reflex functions, as all of the claims of the present application require. For both of those reasons, Applicants respectfully submit that the combination of Dummermuth, Vasko, McLaughlin and Edwards is both improper under § 103 and fails to anticipate the features of the present invention. Applicants therefore request that the § 103 rejection based on those references be withdrawn.

Dummermuth and Vasko in view of Edwards

On page 10 pf March 6, 2006 Office Action, the Examiner rejected Claims 58 and 61 under § 103(a) as being anticipated by Dummermuth and Vasko in view of Edwards. Applicants respectfully traverse that rejection.

As explained *supra*, the combination of Dummermuth and Vasko is improper, because the combination of those two systems would render Dummermuth inoperable for its intended purpose. Dummermuth requires an analysis to be performed by a controller, which issues an enablement system. Vasko, on the other hand, which in the cited embodiment explicitly excludes a controller, can therefore not be combined with Dummermuth to result in an operable system. Edwards fails to cure that deficiency. Edwards does not disclose any way for the output module to execute a reflex function without an enablement signal from a controller. Therefore, the combination of Dummermuth, Vasko and Edwards is inoperable for the same reason as the combination of Dummermuth and Vasko alone.

As further explained *supra*, neither Dummermuth nor Vasko discloses an output module having *two* reflex functions. McLaughlin fails to cure that deficiency as well. Edwards does not disclose an output module having two reflex functions, as all of the claims of the present application require. For both of those reasons, Applicants respectfully submit that the combination of Dummermuth, Vasko and Edwards is both improper under § 103 and fails to anticipate the features of the present invention. Applicants therefore request that the § 103 rejection based on those references be withdrawn.

Appl. No. 09/903,899
Attorney Docket No. SAA-55 (402 P 233)
Reply to Office Action of March 6, 2006

CONCLUSION

In light of the amendments made herein and for the foregoing reasons, Applicants respectfully submit that Claims 39-61 are in condition for allowance. Applicants respectfully request that the Examiner withdraw the rejections and allow the claims to issue. The undersigned Attorney would be pleased to discuss the pending claims or the invention of those claims with the Examiner. The Commissioner is hereby authorized to charge Deposit Account No. 23-0280 in connection with any additional and necessary fees associated herewith.

Respectfully submitted,

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CERTIFICATE OF MAILING (37 C.F.R. § 1.8a)

I hereby certify that this correspondence is, on the date shown below, being deposited with the United States Postal Service, with first class postage prepaid, in an envelope addressed to: Commissioner For Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on August 4, 2006.

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